

## REMARKS

Claims 1-15 are pending.

The Examiner allows claim 6. The Examiner rejects claims 7-15 under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (U.S. Pat. No. 6,287,955) in view of Takeishi (U.S. Pat. No. 6,376,048) and Seta et al. (U.S. Pat. No. 6,352,931). The Examiner rejects claims 1-4 under 35 U.S.C. 103(a) as being unpatentable over Takase et alii (U.S. Pat. No. 6,051,508) in view of Wang and Seta. The Examiner rejects claim 5 under 35 U.S.C. 103(a) as being unpatentable over Takase in view of Wang, Seta, and Takeishi.

The Applicants amend claim 1.

The Applicants add no new matter.

The Applicants request reconsideration.

### Claims Allowed

The Applicants thank Examiner Erdem for allowing claim 6.

### Claim Rejections under § 103

With regard to claims 7-15, the Examiner acknowledges neither Wang nor Takeishi discloses an organic silicon oxide layer. The Examiner alleges Seta discloses a dry etching technology using an organic silicon dioxide layer. The Examiner makes a similar argument with regard to claims 1-4, alleging Seta discloses the organic silicon dioxide layer. Applicants disagree for the reasons that follow.

Claim 7 recites *an organic silicon oxide layer of a low dielectric constant formed on the inorganic silicon oxide layer*. Seta discloses forming a polysilane layer 6 over an insulating film 2. The polysilane layer 6 changes to a silicon oxide film through the introduction of oxygen via thermal diffusion. Seta, column 12, lines 43-52. Thus, an organic silicon oxide layer is never actually formed on anything. Rather, the polysilane layer 6 is chemically altered so as to change into an organic silicon oxide and becomes part of the insulating film 2. Seta, column 12, lines 53-58, and Figure 1E. In the present invention, the organic silicon oxide layer chemically changes to an inorganic silicon oxide layer. Since the Examiner uses Seta in combination with Wang and Takeishi, either Wang or Takeishi must disclose a polysilane layer formed on the inorganic silicon oxide layer in order for the combination to render obvious the claimed invention. Without it, the Examiner makes a

combination that is not disclosed by Wang, Takeishi, or Seta. And that

he cannot do without more tying the references together. Claims 7-15 are therefore in condition for allowance.

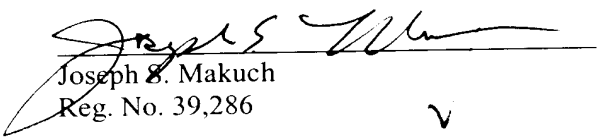
Claim 1 recites oxygenating an inner wall of the partial trench *such that the organic silicon oxide layer organic silicon oxide layer changes to an upper inorganic silicon oxide*. None of the references cited disclose such an oxygenation step. As discussed above, Seta discloses a polysilane layer 6 that is chemically altered to change into an organic silicon oxide and not an inorganic silicon oxide as recited. And the organic silicon oxide becomes part of the insulating film 2 and thus is no longer formed on top of any other layer, organic or otherwise. Claims 1-5 are therefore in condition for allowance.

### Conclusion

The Applicants request reconsideration and allowance of all claims as amended. The Applicants encourage the Examiner to telephone the undersigned at (503) 222-3613 if it appears than an interview would be helpful in advancing the case.

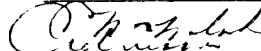
Respectfully submitted,

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ON 3-20-03



**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

1. (Twice amended) A method for fabricating a semiconductor device, comprising:  
forming a conductive region on a substrate;  
depositing a[n] lower inorganic silicon oxide layer on the substrate;  
sequentially depositing an organic silicon oxide layer of a low dielectric constant on  
the lower inorganic silicon oxide layer;  
forming a partial trench with a predetermined depth in the organic silicon oxide layer;  
oxygenating an inner wall of the partial trench such that the organic silicon oxide  
layer organic silicon oxide layer changes to an upper inorganic silicon oxide; and  
forming a trench by etching the partial trench.